# Integrated Stereo AV Amplifier

**Operating Instructions** 

TA-AV621

## WARNING

#### **OWNER'S RECORD**

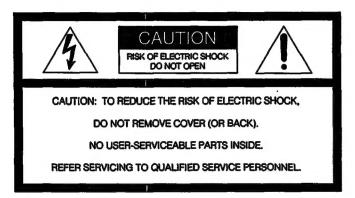
The model and serial numbers are located at the rear. Record these numbers in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No.TA-AV621

Serial No.

#### **WARNING**

To prevent fire or shock hazard, do not expose the unit to rain or moisture.





This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

#### Information

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna

Relocate the equipment with respect to the receiver Move the equipment away from the receiver

Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

\*How to Identify and Resolve Radio-TV Interference Problems\*.

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.

<sup>\*</sup> The graphical symbols are on the rear enclosure.

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### **Precautions**

#### On safety

- Operate the unit only on 120 V AC, 60 Hz.
- Should any solid object or liquid fall into the unit, unplug it and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

#### On operation

Before making program source connections, be sure to turn the power switch off and unplug the unit.

#### On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

For detailed safety precautions, see the leaflet "IMPORTANT SAFEGUARDS".

If you have any question or problem concerning your unit, please consult your nearest Sony dealer.

### Unpacking

#### **Choosing a Good Location**

To prevent internal heat buildup in the unit, place the unit in a location with adequate air circulation.

#### Do not install the unit:

- near heat sources such as radiators or air ducts.
- in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

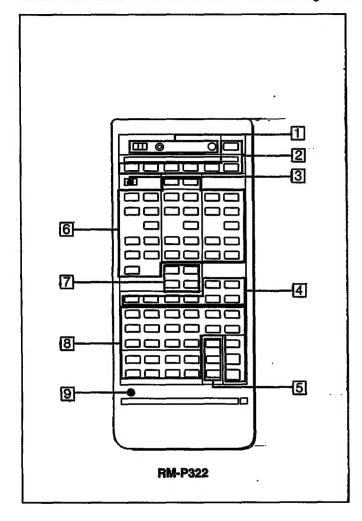
#### Do not place anything on top of the cabinet.

The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.

Do not throw away the carton and packing material! It will be an ideal container when transporting the unit for repair work, etc.

### Remote Commander

The remote commander supplied with this unit can control the unit from a distance. The remote commander is divided into 9 sections according to the functions as shown below.



#### 1 Program control section

Mode selector and indicator:

SONY STD: To control Sony equipment.

USER STD: To control equipment whose remote control functions are stored.

LEARN: To store functions of other remote commanders emitting infrared rays.

PROGRAM CLEAR button: Clears the stored functions.

#### 2 Power control section

SYSTEM OFF button: Turns off the power of the whole system: LDP, VCR, TV, and AUDIO.

LDP/VTR1/VTR2/VTR3/TV/AUDIO POWER buttons: Control the power of each unit.

#### 3 MODE selector

Selects the function mode on the remote commander.

- 1: To select the functions indicated in light gray such as DECK, CD player and surround mode of amplifier.
- 2:To select the functions indicated in blue such as VCR, LDP and TV.

#### 4 CD/LD player control section

The combined CD/LD player can be controlled with LDP position

D.(disc) SKIP: Disc skip (for a CD player equipped with a multi-disc changer)

➤: Play

III: Pause

E: Stop

✓: Manual search

I Locates a desired selection.

#### **5** Tuner control section

SHIFT button: Selects a memory page.

TUNER PRESET +/- buttons: Select a preset station.

#### 6 Tape deck/VCR control section

ANT (antenna) TV/VTR buttons: Selects the output signal from the antenna terminal on the VCR, either a TV signal or VCR programs.

VTR CH (channel) +/- buttons: Select channel on the VCR

←

 Fast winding or forwarding

Recording

✓/➤: Play

: Stop

II: Pause

C.(cassette) SKIP: Cassette skip (for a cassette deck equipped with a multi-cassette changer)

**REC MODE REV/FWD buttons:** 

For reverse recording, press REV and ● together. For forward recording, press FWD and ● together.

#### **7** CD SYNCHRO (CD synchronized recording) section

(The playback of the Sony CD player equipped with a remote commander and the recording of the cassette deck can be performed simultaneously.)

SYNCHRO: Press to start recording of the cassette deck equipped with the multi-changer and then playback of the CD player.

STAND BY: Press to set the cassette deck to the recordstandby mode.

START: Press to start recording of the cassette deck and then playback of the CD player.

STOP: Press to stop the recording of the cassette deck and playback of the CD player.

#### 8 Amplifier/TV section

TV/VIDEO button: Selects the input signal of the TV. (for TV)

Program number (1 to 0) and ENTER buttons: Select the channel. (for TV)

SURROUND mode selectors (for the AV amplifier)
ON/OFF: Turns on/off the surround mode.

MODE: Selects the surround mode.

T.(test) TONE: Outputs test tone to each speakers in succession.

DELAY: Adjusts the delay time.

FUNCTION selectors: Select an input source of the AV amplifier. (for the AV amplifier)

(The VIDEO 2, 3 and 4 do not function. When the VIDEO 1 button is pressed, the AV amplifier enters the VIDEO mode.)

CENTER VOL /TV VOL +/- buttons: Control the volume of center speaker or TV. (The CENTER VOL +/- buttons function for the AV amplifier.)

REAR VOL /TV CH +/- buttons: Control the volume of rear speakers or channel of TV. (The REAR VOL +/- buttons function for the AV amplifier.)

DBFB button: Turns on/off the DBFB (Dynamic Bass Feed Back). (for the AV amplifier)

MASTER VOL +/- buttons: Control the amplifier's master volume. (for the AV amplifier)

#### 9 Reset button

Reset the commander to the initial state.

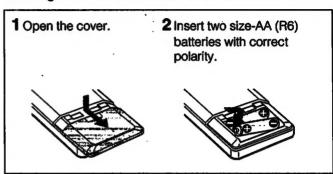
### Note on the $\bullet$ (recording) button under $\ensuremath{\overline{\mathbb{G}}}$ Tape deck/DAT/VCR control section

If your recorder is of such type as pressing ● puts it in recording pause mode, first press ● on this commander and then ■.

#### Note

The ◄/► (play) buttons in ④ and ⑥ and the SHIFT button, PRESET +/- buttons in ⑤ and CD SYNCHRO buttons in ⑦ can function without pressing one of the FUNCTION buttons in ⑧.

#### Inserting the batteries into the remote commander



#### **Battery life**

About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries.

When the batteries are exhausted, the commander can no longer operate the unit. Replace both batteries with new ones.

#### To avoid battery leakage

When the commander is not to be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

#### To avoid malfunction of the remote commander

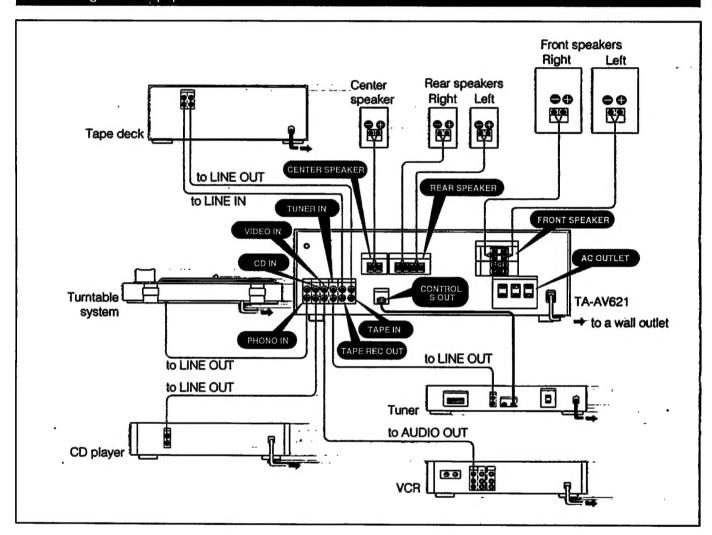
Avoid keeping the remote commander under extremely hot or humid locations.

### Hooking Up the System

At first, this section describes about the connections with the other audio/video equipments and speakers. After that, it also shows about the remote control system and AC outlet.

- Connect the AC power cord last. Make sure power is off.
- Jacks and plugs of the connection cord are color-coded as follows: Red jacks and plugs: For the right channel of audio signals White jacks and plugs: For the left channel of audio signals
- The cable connectors should be fully inserted into the jacks. Loose connections may cause hum and noise.

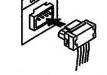
#### Connecting Audio Equipment



#### **CONTROL S cord (not supplied)**

Connect the CONTROL S IN jack of other Sony equipment with the CONTROL S cord for whole audio system remote control.





Push in until it clicks.



To disconnect.

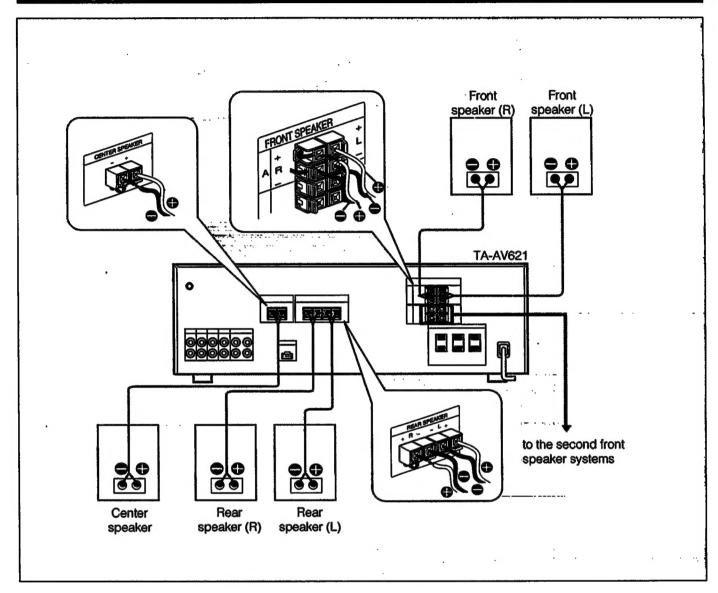
#### AC OUTLETS (SWITCHED)

Use these to power audio component whose power consumption is less than the wattage indicated on the AC outlets. These outlets are controlled by the SYSTEM POWER switch on the front panel.

#### CAUTION

Do not connect any electrical home appliances such as an electric iron, fan, TV or other high wattage equipment to these AC outlets.

#### **Connecting Speakers**



#### Front speakers

Connect the front speaker systems to the FRONT SPEAKER A or/and B terminals.

They can be selected individually or simultaneously with the SPEAKERS selector.

#### Rear speakers

Connect the rear speaker systems to the REAR SPEAKER terminal for enjoying surround sound.

#### Center speaker

You can connect a center speaker to the CENTER SPEAKER terminal for enjoying surround sound. The sound such as a dialog comes from the center.

#### Note on speaker impedance and power capacity

This amplifier is designed to work best with speakers of nominal impedance from 8 to 16 ohms (Center speaker: from 4 to 16 ohms). Be sure to use a speaker system with adequate power handling capability.

#### Note

When connecting the speaker cord to the speaker terminal, make sure that the polarity (+ and –) of the speaker cord is correct. If the polarity is reversed at either speaker, the sound will be distorted and will lack bass.

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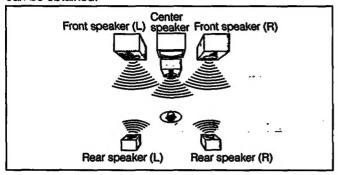
This section describes about selecting the speaker configuration for the surround system and then adjusting the speaker volume and the delay time of the rear speakers so that you can enjoy the Dolby surround sound.

#### Positioning the Speakers

Where you place the speakers depends on the size and acoustics of the listening room.

The figure below are just examples.

We recommend that you experiment to find the speaker direction or location in which the most effective acoustics can be obtained.



### Placement of Speakers and Selecting the PRO LOGIC MODE

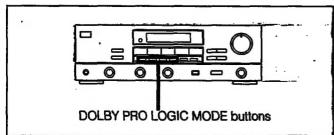
The Dolby\* Pro Logic Surround Decoder has the same functions for playback, such as movie theaters and gives a theater-like experience in your listening room, naturally reproducing the audio sound field.

The TA-AV621 incorporates a decoder which reproduces the specially encoded surround sound of Dolby surround video programs.

In the SURROUND mode, a speaker operation mode can be selected to match your speaker system.

A center speaker is required in addition to the basic four speakers.

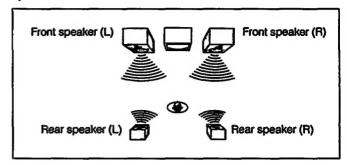
The setting on which the vocal image will be located on the center of the TV screen is better affect to surround effect. In the SURROUND mode, select the speaker operation mode according to your speaker configuration by pressing the PHANTOM, NORMAL, WIDE or 3 CH button.



Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more of the following patents: U.S. numbers 3,632,886, 3,746,792, and 3,959,590. Canadian numbers 1,004,603 and 1,037,877.
"DOLBY" and the double-D symbol III are trademarks of Dolby Laboratories Licensing Corporation.

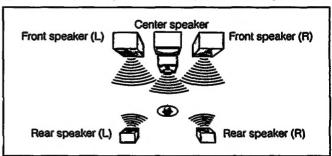
#### **PHANTOM** mode

Select this mode when you do not use center speaker. The sound of the center channel can be heard from the front speakers.



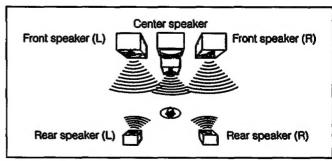
#### **NORMAL** mode

Select this mode if you use small center speaker. The bass sound of the center channel is output from the front speakers, as small speaker cannot produce enough bass.



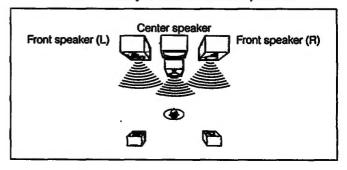
#### **WIDE** mode

Select this mode if you use a medium to big center speaker.



#### 3CH mode

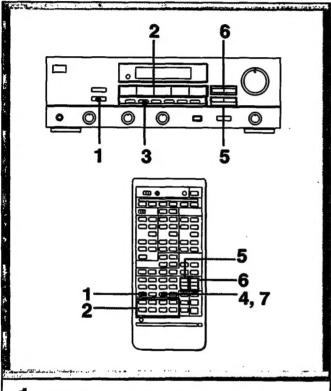
Select this mode when you do not use rear speakers.



#### Adjusting the Speaker Volume

To adjust the surround sound to the maximum on playing any program sources, adjust the front, rear and center (if connected) speakers to the same volume level. The adjustment must be done with a test tone in the DOLBY PRO LOGIC MODE, but the level once adjusted can be used for all DOLBY PRO LOGIC MODEs.

You can adjust the volume level from your listening position by using the remote commander.



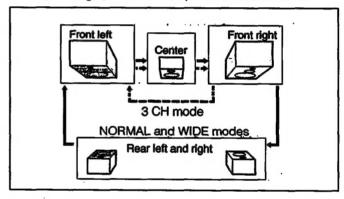
- 1 Press the SURROUND button on the front panel or SURROUND ON/OFF button on the remote commander to set to the SURROUND ON mode.
- 2 Select a program source with the function selector and start playback.
- 3 Select the NORMAL mode with the NORMAL button on the front panel.
- 4 Press the T. TONE button on the remote commander.

- 5 Adjust the level of rear speakers with the REAR LEVEL + or button on the front panel or the REAR VOL + or button on the remote commander.
- 6 Adjust the level of center speaker with the CENTER LEVEL + or button on the front panel or the CENTER VOL + or button on the remote commander.
- 7 Press the T.TONE button on the remote commander to set to off.

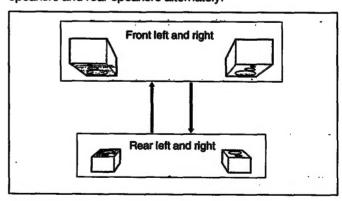
#### Sequence of the test tone

In a system with a center speaker:

The test tone will be output automatically from the front left, center, front right, and the rear speakers in succession.



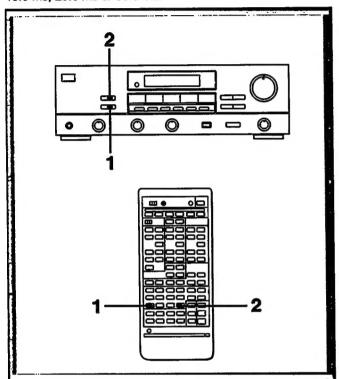
In a system without a center speaker: The test tone will be output automatically from the front speakers and rear speakers alternately.



## Getting Ready to Enjoy Surround Sound

#### Adjusting the Delay Time of the Rear Speakers

The delay time is a time between the surround sound from the front and that from rear speakers. Select the delay time 15.0 ms, 20.0 ms or 30.0 ms.



- Press the SURROUND button on the front panel or the SURROUND ON/OFF button on the remote commander to set to the SURROUND mode.
- 2 Select the delay time with the DELAY TIME button on the front panel or the DELAY button on the remote commander.

#### To turn off the surround effect

Press the SURROUND button on the front panel or the SURROUND ON/OFF button on the remote commander again.

The normal sound without surround effect will resume.

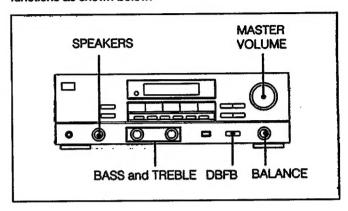
Both level and delay time of the surround is memorized each time after adjusting. They will be restored when the surround mode is resumed.

#### Note

The delay time for the rear speakers can be adjusted even in the 3 CH mode.

## Adjusting the Audio Controls

You can enjoy superb sounds using the audio adjustment functions as shown below.



#### **Adjusting Volume**

To increase the sound level, turn the MASTER VOLUME control clockwise. To decrease it, turn the control counterclockwise.

#### Adjusting the Left and Right Sound Balance

To change relative strength of the right and left speaker outputs, adjust the BALANCE control.

#### Adjusting the Tone from the Front Speaker

To enhance TREBLE or BASS sound from the front speakers, turn the TREBLE or BASS control clockwise. To attenuate them, turn the TREBLE or BASS control counterclockwise.

#### Reinforcing the Bass Sound

To powerful bass sound, press the DBFB (Dynamic Bass Feed Back) button. The lower the volumes, the more the bass sound is emphasized.

#### Selecting the Speaker System

To drive speaker system A: Set the SPEAKERS selector to A.

To drive speaker system B: Set the SPEAKERS selector to B.

To drive both speaker systems A and B (series connection): Set the SPEAKERS selector to A + B.

For headphone listening: Connect headphones to the HEADPHONES jack and set the SPEAKERS selector to OFF. To turn off the rear and center speakers, set the SURROUND button to off.

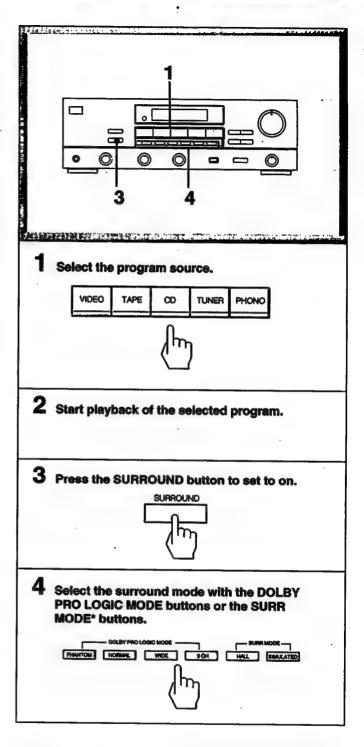
#### **IMPORTANT**

Speaker systems A and B are series connected. When only one speaker system is connected, no sound can be heard at the A + B position.

## Listening to a Program Source

## Turntable system Tuner CD player Tape deck **VCR** Select the program source to be played back. VIDEO TAPE TUNER PHONO 2 Start playback of the selected program. Adjust the volume. MASTER VOLUME

## Listening with the Surround Effect



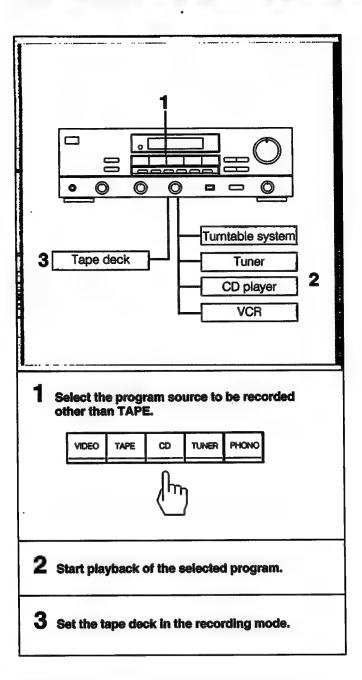
\* You can select the surround modes with the SURR MODE buttons.

**HALL** (Hall surround): Provides reverberation effect that is produced in a concert hall.

**SIMULATED** (Simulated surround): Gives a simulated stereo effect to monaural sound.

#### Note

No sound will be heard from the rear and center speakers, unless one of the SURROUND PRO LOGIC MODE or SURR MODE is selected with SURROUND button set to on.



#### **Note**

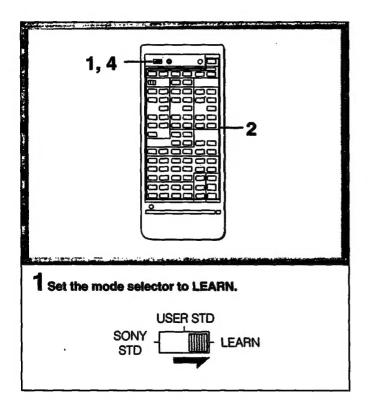
The MASTER VOLUME, TONE, BALANCE, SURROUND controls and the DBFB button have no effect on recording.

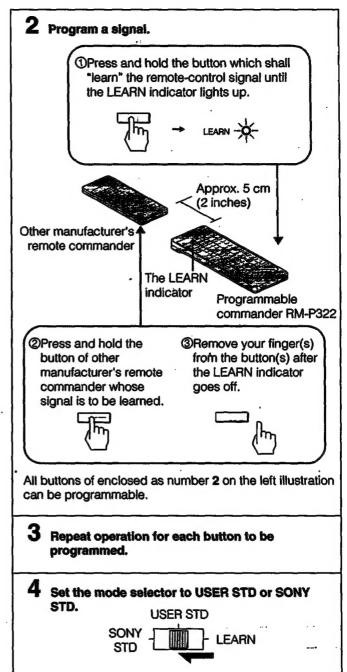
## Storing Other Manufacturer's Operating Codes onto the Supplied Remote Commander

When you manipulate a switch or button on the commander, be sure to point the head of the commander toward the remote control sensor on the front of the AV amplifier. If there is an obstacle between the AV amplifier and the head of the commander, the AV amplifier may not be controlled remotely.

## Programming Signals of Other Audio/Video Equipment

The RM-P322 learns various functions of other remote commanders emitting infrared rays and allows you to control most of audio and video equipment from a distance.





#### The two remote commanders must:

- · face straight each other.
- be placed at a distance of approx. 5 cm (2 inches).
- not be moved during programming operation.

#### After programming

Be sure to test if the equipment really works with the programmed signals.

**Number of signals that the commander can learn** It depends on the format of the signal. If you program signals of Sony equipment, approximately 50 - 60 signals can be programmed.

## Storing Öther Manufacturer's Operating Codes onto the Supplied Remote Commander

**Memory capacity** 

If the LEARN indicator flashes or does not go out in step 2-②, ③, the memory capacity has become full. This occurs when other signals stronger than the remote-control signals have been stored because the signals were programmed in a noisy environment or the remote commanders were placed too far apart from each other.

In this case, clear all the signals following the procedure described below and program again from the beginning under the proper conditions.

#### Notes on programming

- Remote-control signals of equipment of manufacturers other than Sony can be programmed only when they are compatible with the infrared wireless remote control system. Since the programmable commander can "learn" only the signals output from another remote commander, it cannot control equipment that does not use a remote commander.
- Do not attempt to use the programmable commander with an air conditioner or other household appliances.
- Note that there are some special remote-control signals that cannot be programmed.

#### Programming a New Signal onto a Previously Programmed Button

Follow the programming procedure.

The previously programmed signal is cleared and replaced by the new signal.

#### To clear all programmed signals

- 1 Set the mode selector to LEARN.
- 2 Press and hold any button of the programmable area until the LEARN indicator lights up.
- 3 Press PROGRAM CLEAR until the LEARN indicator flashes and goes off.

#### Note

It is not possible to clear the programmed content of just one button.

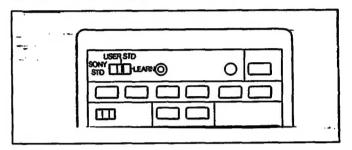
### To program a signal onto the • REC button in the TAPE or VTR section

It is not possible to operate any equipment with only the 
● REC button. To program a signal under the ● REC button, press and hold the following buttons at the same time in step 2-①.

TAPE	DECK/VTR REC MODE REC MODE REV OF FWD			
VTR	DECKAYTR REC MODE FWD			

#### **Controlling Equipment**

By switching the mode selector as shown below, a single button alternately controls Sony equipment and another manufacturer equipment.



#### To control Sony equipment



#### To control equipment with programmed signals



## When Sony equipment cannot be remote-controlled Program the signal in the same way as for equipment from other manufacturers. In this case, even with Sony equipment, set the mode selector to USER STD.

Notes on Battery

If the LEARN indicator does not light when a button is pressed, the batteries are almost exhausted.

When the batteries are exhausted, the remote commander can no longer operate the unit or programming becomes impossible.

If this happens, replace both batteries with new ones. We recommend the use of alkaline batteries for prolonged use. If you leave the batteries out for a long time when replacing, the program will disappear.

#### If no signal has been programmed

The programmable commander can control Sony equipment even when the mode selector is set to USER STD.

#### If the equipment works incorrectly

Press RESET.

The programmed contents of the buttons are not cleared by pressing RESET.

### **Specifications**

## AUDIO POWER SPECIFICATIONS POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm loads, both channels driven, from 40 - 20,000 Hz; rated 135 watts per channel minimum RMS power, with less than 0.9% total harmonic distortion from 250 milliwatts to rated output.

**Amplifier section** 

Power bandwidth (IHF) 30 Hz - 30 kHz (8 ohms)

Dynamic headroom 1.7 dB ('78 IHF)

Harmonic distortion Less than 0.9% at rated output

(Surround OFF)

Frequency response PHONO: RIAA equalization curve

CD, VIDEO, TUNER, TAPE: 10 Hz - 50 kHz ±3dB

Rear output 15 W + 15 W (at front off 8 ohms)

Center output 30 W (at front off 4 ohms)
Damping factor 27 (8 ohms, 1 kHz)

Input

Input jack	Jack type	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	Phono	3.0 mV	50 kilohms	71 dB 75 dB* (A, 3.0 mV)
CD,VIDEO, TUNER, TAPE	Phono	250 mV	50 kilohms	92 dB 83 dB* (A, 250 mV)

\*'78 IHF

#### Output

TAPE (REC OUT)	Phono jacks	Voltage 150 mV Impedance 1 kilohm
SPEAKERS (Front, Rear)	-	Accepts speakers of 8 - 16 ohms
SPEAKERS (Center)	_	Accepts speakers of 4 – 16 ohms
HEADPHONES	Stereo phone jack	Accepts low and high impedance headphones.

Tone controls BASS: ±10 dB (100 Hz) TREBLE: ±8 dB (10 kHz)

General

Power requirements 120 V AC, 60 Hz

Power consumption 250 W

AC outlets 3 switched, 120 W/1 A max. Dimensions Approx. 430 x 145 x 360 mm

(w/h/d)

(17 x 5 3/4 x 14 1/4 inches)

Weight Approx. 9.9 kg (21 lb 14 oz)
Accessories supplied Remote Commander

RM-P322 (1) Sony batteries SUM-3(NS) (2)

Design and specifications are subject to change without notice.

## Troubleshooting

Before going through the check list below, first refer back to the connection and

operating procedures.

Should any problem persist after you have made these checks, consult your nearest Sony dealer.

Trouble	Remedy
No audio.	<ul> <li>Check the power cord connection.</li> <li>Check the SPEAKERS selector setting.</li> <li>Check the connections.</li> <li>Check the setting of the function selector.</li> <li>Check the speaker terminal connection and the speaker cord for a short.</li> </ul>
No audio from one channel.	Adjust the BALANCE control.     Check the speaker cord or connecting cord connection.
Lack of bass sound or obscure instrument position.	Check the connection between the amplifier and speakers.
Severe hum or noise when using the turntable.	<ul> <li>Ground the turntable system.</li> <li>Fully insert the plug of the connecting cord.</li> <li>Disconnect the ground wire of the turntable from the terminal when using an MM cartridge with a ground piece.</li> </ul>
Noise when TV is turned on.	Move the TV away from the audio system.
Switching on DBFB does not affect the sound.	The DBFB button reinforces only low frequencies.
No sound or sound at very low level is heard from rear speakers.	<ul> <li>Check if the SURROUND button is set to OFF. (No indicators are lit.) (See page 11.)</li> <li>Check if the volume level of the rear speakers is set to minimum.</li> <li>Check if the monaural program source is played back in Dolby surround mode.</li> <li>Check if the 3CH mode is selected in the DOLBY PRO LOGIC MODE. (See page 8.)</li> </ul>
The operation cannot be performed with the remote commander.	<ul> <li>Check that the batteries are loaded correctly.</li> <li>Check if there is any obstacle between the remote commander and the amplifier.</li> <li>Check if the batteries are exhausted.</li> </ul>
The commander signal cannot be programmed.	<ul> <li>Check if there is noise interference. Place both remote commanders apart from the source of noise.</li> <li>Check if the batteries are exhausted.</li> </ul>
The LEARN indicator goes off after flashing.	Check that the internal memory capacity is full. Clear all the signals and program again. (See page 14.)